File

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte FRANK SHI-CHOW CHEN and ALBERT J. GEIGER

Appeal No. 95-1991
Application 07/993,686[1]

ON BRIEF

Before KIMLIN, JOHN D. SMITH and TURNER, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1, 3-19, 21 and 22, all the claims remaining in the present application. Claims 1 and 17 are illustrative:

[1] Application for patent filed December 21, 1992.

1. A controlled release composition comprising:

(a) a substrate comprising core particles of a water soluble chemical compound;

(b) a controlled release polymeric coating layer surrounding and encapsulating each of said core particles, said coating layer comprising a material which is slowly permeable to water; and

(c) at least one additional coating layer surrounding and encapsulating said controlled release layer, said at least one additional coating layer comprising a finely divided mineral filler dispersed in a metal or ammonium lignosulfonate binder.

17. A method for preparing a controlled release chemical composition having improved release properties comprising:

(a) providing particles of a water soluble chemical compound encapsulated in a controlled release coating layer which is slowly permeable to water;

(b) mixing said particles with an aqueous solution containing a metal or ammonium lignosulfonate to uniformly coat said particles with said solution;

(c) contacting said coated particles under mixing conditions with a finely divided mineral filler such that said filler uniformly adheres to the surface of said coated particles; and

(d) drying said coated particles.

The examiner relies upon the following references as evidence of obviousness:

Nau	3,353,949	Nov. 21, 1967
Baskin	3,558,299	Jan. 26, 1971
Omura et al. (Omura)	3,744,987	Jul. 10, 1973
Duvdevani et al. (Duvdevani)	4,701,204	Oct. 20, 1987
Rehberg et al. (Rehberg)	5,238,480	Aug. 24, 1993

Japanese Patent (Central) 2,111,686 Apr. 24, 1990

Appellants' claimed invention is directed to a controlled release material comprising a core of water soluble chemicals, a controlled release polymeric coating which encapsulates the core chemicals, and a second coating which encapsulates the polymeric coating. The second encapsulating coating comprises a mineral filler dispersed in a metal or ammonium lignosulfonate binder. Claim 17 on appeal defines a method for making the controlled release material. According to appellants, the second encapsulating coating serves to protect the first coating from damage from abrasion and the like.

Appellants submit at page 4 of the brief that the following groups of claims stand or fall together: Group I-Claims 1, 3, 5-10 and 12-16; Group II-Claims 4, 17, 21 and 22; Group III-claim 11; Group IV-claim 18; Group V-claim 19.

Appealed claims 1, 3-19, 21 and 22 stand rejected under 35 USC § 103 as being unpatentable over Duvdevani in view of Nau, Baskin, Rehberg and Central or Omura.

Upon careful consideration of the opposing arguments presented upon appeal, we will sustain the examiner's rejection of claims 1 and 3-16. However, we will not sustain the examiner's rejection of claims 17-19, 21 and 22. Our reasoning follows.

Appellants apparently concede that a controlled release composition comprising the claimed components (a) and (b) was known in the art (Page 4 of brief). Indeed, this is evidenced by Duvdevani. It is appellants' argument that it would not have been obvious for one of ordinary skill in the art to provide a further overcoat, comprising a mineral filler and a metal or ammonium lignosulfonate, on a controlled release composition already having an outer, polymeric protective layer. Our review of the applied prior art leads us to the opposite conclusion.

Rehberg discloses coating fertilizer particles with a composition comprising a metal or ammonium lignosulfonate in order to impart increased resistance to abrasion. In addition, Rehberg teaches that successive coats of the lignosulfonate-containing composition can be applied to the fertilizer particles (Column 7, lines 25 at seq. and column 8, lines 28 at seq.). Rehberg also discloses that the additional coatings can be of a composition different than the original coating. Accordingly, we find that it would have been obvious for one of ordinary skill in the art to apply a plurality of coatings to core particles in order to impart abrasion resistance. We note that Rehberg, like appellants, teaches that a layer comprising ammonium or metal lignosulfonates is suitable for the second coating (Column 7, lines 30-33).

We appreciate that Rehberg fails to disclose that the abrasion-resistant coating may also contain a mineral filler. However, Central discloses that it was known in the art of coated slow-release fertilizers to include mineral fillers in the coating composition (See page 3, last two paragraphs of English translation). According to Central, mineral fillers in an amount of 50-80% have been used to reduce the cost of coating materials. As result, we find that it would have been obvious to one of ordinary skill in the art to employ large amounts of filler in an outer protective coating comprising a metal or ammonium lignosulfonate based on economic considerations alone. Compare In re Thompson, 545 F.2d 1290, 1292, 192 USPQ 275, 277 (CCPA 1976). Manifestly, the use of fillers to lower the cost of a composition is a conventional practice in a myriad of arts. Furthermore, Omura provides an additional reason for incorporating a mineral filler in the outer coating of a controlled release composition. At column 2, lines 7 at seq., Omura teaches that a filler is employed to increase the viscosity of the outer coating and thereby insure the formation of fine pores of appropriate size. Consequently, based on the teachings of the prior art, we are satisfied that it would have been obvious for one of ordinary skill in the art to apply an additional protective coating composition, comprising a mineral filler and a metal or ammonium lignosulfonate, on the controlled

release composition of Duvdevani. Regarding Tables 1 and 2 in the present specification, we concur with the examiner that a greater retention of CR properties would be the expected result when utilizing an additional protective coating. Expected results are evidence of obviousness. In re Hoffman, 556 F.2d 539, 194 USPQ 126 (CCPA 1977); In re Skoll, 523 F.2d 1392, 187 USPQ 481 (CCPA 1975).

We will not sustain the examiner's rejection of method claims 17-19, 21 and 22. Independent claim 17 recites a specific number of steps for preparing a controlled release composition. While the examiner has explained why the claimed composition would have been obvious to one of ordinary skill in the art, the examiner provides no rationale why the claimed method steps would have been obvious. This is clear error. Consequently, inasmuch as the examiner has failed to establish a prima facie case of obviousness for the method claims on appeal, we are constrained to reverse the examiner's rejection.

In conclusion, based on the foregoing, the examiner's decision rejecting claims 1 and 3-16 is affirmed. The examiner's rejection of claims 17-19, 21 and 22 is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

EDWARD C. KIMLIN)
Administrative Patent Judge)
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JOHN D. SMITH) BOARD OF PATENT
Administrative Patent Judge) APPEALS AND
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